

Title (en)
Detection diagnostics of a particulate matter sensor

Title (de)
Erkennungsdiagnose eines Partikelsensors

Title (fr)
Diagnostics de détection d'un capteur de matière particulaire

Publication
EP 2541027 A3 20141105 (EN)

Application
EP 12173094 A 20120622

Priority
US 201113171540 A 20110629

Abstract (en)
[origin: EP2541027A2] A diagnostic method and system is described for diagnosing an operating condition of a conductive particulate matter sensor. The sensor has a substrate with electrical resistance that varies with temperature and two electrodes on the substrate adapted to collect particulate matter between the electrodes, thereby establishing an electrically conductive path through collected particulate matter between the electrodes that can be detected by measuring electrical resistance between the electrodes, R_{elect}. The diagnosis is performed by heating the substrate in the area between the electrodes and using the resistance between the electrodes to determine detecting whether contamination is present on the surface of the sensor. Heat may be maintained on the sensor to attempt to burn off a detected contaminant, and a subsequent resistance reading may be used to determine if the contaminant was successfully burned off.

IPC 8 full level
F01N 9/00 (2006.01); **F02D 41/14** (2006.01); **F02D 41/22** (2006.01); **G01N 15/06** (2006.01)

CPC (source: EP US)
F02D 41/1466 (2013.01 - EP US); **F02D 41/1494** (2013.01 - EP US); **F02D 41/222** (2013.01 - EP US); **G01N 15/0656** (2013.01 - EP US); **G01N 27/041** (2013.01 - EP US); **Y02T 10/40** (2013.01 - EP US)

Citation (search report)
• [XY] US 2010312488 A1 20101209 - DIEHL LOTHAR [DE], et al
• [YDA] US 2011109331 A1 20110512 - NELSON CHARLES SCOTT [US], et al
• [X] FR 2948150 A1 20110121 - CONTINENTAL AUTOMOTIVE GMBH [DE]

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)
BA ME

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DOCDB simple family (application)
EP 12173094 A 20120622; JP 2012145260 A 20120628; US 201113171540 A 20110629